

What is claimed is:

1. A medical device for thermally affecting tissue, comprising:
a fluid inlet conduit;
a fluid outlet conduit; and
a shapeable body operatively connected to the fluid inlet and the fluid outlet conduit and defining a tissue contact region, the shapeable body having a height, a length, and a width, wherein the height is less than the length and the width.
2. The medical device according to claim 1, wherein the shapeable body is malleable such that the shapeable body retains a first shape until manipulated to a second shape.
3. The medical device according to claim 1, wherein the shapeable body comprises a proximal end, a distal end opposite the proximal end and a wall defining a first channel and a second channel, the first channel and the second channel being substantially parallel along the length of the shapeable body and the first channel and the second channel being in fluid communication at the distal end of the body.
4. The medical device according to claim 1, wherein the shapeable body comprises:
a proximal end;
a distal end opposite the proximal end; and
a wall coupled to the distal end and the proximal end, the wall having one or more openings therethrough;

the wall, distal end and proximal defining a first channel and a second channel, the first channel and the second channel being substantially parallel along the length of the shapeable body and the first channel and the second channel being in fluid communication via the at least one opening in the wall.

5. The medical device according to claim 3, wherein the fluid inlet conduit is in fluid communication with the first channel and the fluid outlet conduit is in fluid communication with the second channel.

6. The medical device according to claim 3, further comprising a thermally conductive membrane adjacent the tissue contact region.

7. The medical device according to claim 6, wherein the shapeable body further includes a plurality of support nubs, the thermally conductive membrane being affixable to and at least partially supported by the plurality of support nubs.

8. The medical device according to claim 6, wherein the thermally-conductive membrane is made of a material selected from the group consisting of silicone polymer, soft pellethane, rubber, and plastic.

9. The medical device according to claim 6, where in the thermally-conductive membrane is fluid permeable.

10. The medical device according to claim 3, wherein the shapeable body further includes a malleable shape retaining device such that the shapeable body retains a first shape until manipulated to a second shape.

11. The medical device according to claim 10, wherein the shape retaining device is selected from the group consisting of a malleable plate, wires, and shims.

12. The medical device according to claim 1, further comprising a temperature sensor.

13. The medical device according to claim 1, further comprising a pressure sensor.

14. The medical device according to claim 1, wherein the fluid inlet provides a path for thermally transmissive fluid from a fluid source to the shapeable body; and
the fluid outlet provides a path for the thermally transmissive fluid from the shapeable body to the fluid source, the fluid source, the fluid inlet, the fluid outlet, and the shapeable body defining a circulation circuit.

15. The medical device according to claim 1, further comprising a fluid inlet tube, a fluid outlet tube and one or more sensor wires coupled to the body and arranged as a flattened planar array.

16. A medical device for thermally affecting tissue, comprising:
a shapeable body defining a tissue contact region operable to contact and thermally affect a tissue treatment site, the shapeable body including a proximal end and a distal end defining a first channel and a second channel, the first channel and the second channel being substantially parallel from the proximal end of the body to the distal end of the shapeable body, wherein the first channel and the second channel are in fluid communication at the distal end of the shapeable body; and the shapeable body having a malleability such that the shapeable body retains a first shape until manipulated to a second shape.

17. The medical device according to claim 16, further comprising a fluid inlet in fluid communication with the first channel and a fluid outlet in fluid communication with the second channel.

18. The medical device according to claim 17, wherein the fluid inlet provides a path for thermally transmissive fluid from a fluid source to the shapeable body; and the fluid outlet provides a path for the thermally transmissive fluid from the shapeable body to the fluid source, the fluid source, the fluid inlet, the fluid outlet and the shapeable body defining a circulation circuit.

19. The medical device according to claim 16, further comprising a thermally conductive membrane adjacent the tissue contact region.

20. The medical device according to claim 19, wherein the shapeable body further includes a plurality of support nubs, the thermally conductive membrane being affixable to and at least partially supported by the plurality of support nubs.

21. The medical device according to claim 19, wherein the thermally-conductive membrane is made of a material selected from the group consisting of silicone polymer, soft pellethane, rubber, and plastic.

22. The medical device according to claim 21, where in the thermally-conductive membrane is fluid permeable.

23. The medical device according to claim 16, wherein the shapeable body further includes a malleable shape retaining device such that the shapeable body retains a first shape until manipulated to a second shape.

24. The medical device according to claim 23, wherein the shape retaining device is selected from the group consisting of a malleable plate, wires, or shims.

25. The medical device according to claim 16, further comprising a temperature sensor.

26. The medical device according to claim 16, further comprising a pressure sensor.

27. The medical device according to claim 16, further comprising a fluid inlet tube, a fluid outlet tube and one or more sensor wires coupled to the body and arranged as a flattened planar array.

28. A medical device for thermally affecting tissue comprising:

- a body including a proximal end, a distal end, a bottom surface and a wall defining a first channel and a second channel, the first channel and the second channel being substantially parallel from the proximal end of the body to the distal end of the body, and the first channel and the second channel are in fluid communication;
- a fluid inlet conduit in fluid communication with the first channel;
- a fluid outlet conduit in fluid communication with the second channel;
- a thermally conductive membrane affixed to the bottom surface and defining a fluid path from the fluid inlet conduit to the fluid outlet conduit through the first channel and the second channel; and
- a malleable plate interposed within the body, the malleable plate having a malleability such that the malleable plate retains a first shape until manipulated to a second shape.

29. A method of thermally affecting a tissue treatment site in the body of a patient, the method comprising:

- selecting a medical device to thermally affect the tissue treatment site, the medical device including a shapeable body defining a tissue contact region and having a height, a length, and a width, the height being less than the length and the width;

-
-
-
-

creating an opening in the patient's body;

bending the shapeable body to conform to the surface of the tissue treatment site;

inserting the shapeable body into the opening such that the tissue contact region is in thermal communication with the tissue treatment site; and

infusing a thermally transmissive fluid into the shapeable body.

30. The method according to claim 29, further comprising selecting a tissue treatment site, the tissue treatment site being in the patient's head.

31. The method according to claim 30, wherein the tissue treatment site is selected based on a previous mapping of centers of brain function.

32. The method according to claim 30, wherein the infused thermally conductive fluid is a chilled saline fluid.